

# Econ 4090

## Econometrics

This is an introductory course on Econometrics. The goal is to learn the essential analytical tools widely used in basic applied econometrics and economic data analysis

- Learning simple and multiple linear regressions that are essential in understanding causal effects of economic variables (including policy variables) on a targeted outcome variable
- Extending concept of classical statistical ‘hypothesis testing’ to test significance of such causal effects.
- Introductory level time series analysis
- Introducing concepts of some commonly faced econometric issues in data analysis – heteroscedasticity, autocorrelation, multicollinearity, outliers, endogeneity and nonlinearity.
- Introductory level analysis of causal effects of economic variables on qualitative (binary only) outcome variable.
- Learning simple concepts of in-sample versus out-of-sample predictions.
- Use of real world economic data and statistical “R” package to apply some of the above concepts



The course concludes with some discussions of new datamining and machine learning techniques that are being introduced to econometric data analyses, and how they are changing the classical paradigm of econometrics (intuitive overview only)

**\*\*Prerequisites & Corequisites:**

Prerequisites: Either ECON 2090 or STAT 2160 and ECON 4030 and ECON 4060

